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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,391	12/11/2003	Ken Gentile	A5GN2392US	9723
23935	7590	06/30/2005	EXAMINER	
KOPPEL, JACOBS, PATRICK & HEYBL 555 ST. CHARLES DRIVE SUITE 107 THOUSAND OAKS, CA 91360			COX, CASSANDRA F	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/734,391	GENTILE, KEN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cassandra Cox	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 18-21 and 25 is/are rejected.
- 7) ☒ Claim(s) 12-17, 22-24, 26-32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/11/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the count processor being configured to stop the counter (there is no connection showing the counter being controlled by the count processor), the harmonic detector, the phase controller further including a comparator, and an adder that alters the controlled tuning word with the difference (see claim 9), the phase controller further including a frequency adjuster, the phase controller further including a second adder must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-11 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite because the claim is misdescriptive. The claim calls for "at least one counter controlled to obtain a difference count". It is the examiner's understanding of the claim and the drawings that a differencer (46) actually provides a difference count based on a reference count and a synthesizer count provided by the reference signal counter and the synthesizer signal counter, respectively. Claim 4 is indefinite because the claim is misdescriptive. It is the examiner's understanding of the specification and the drawings that the adder is not included in the count processor, but rather that it is included in the frequency controller. Claim 5 is indefinite because the claim is misdescriptive. The claim calls for the synthesizer and reference counters being arranged to provide a difference count. As mentioned above, (with respect to claim 2) the difference count is actually being provided by a differencer (46). The same applies to claim 18. In addition, claim 5 is further found to be misdescriptive because the count processor (48) does not multiply the controlled tuning word by a multiplier S. This is instead done by multiplier (84). The same applies to claim 20. Claim 6 is

indefinite because the claim is misdescriptive. The adder (62) is not included in the phase controller, but is found outside of the phase controller (60). Claim 11 is indefinite because the claim is misdescriptive. The claim calls for a second adder that does not appear to be disclosed in the figures or disclosure. Is applicant referring to the multiplier (113 and/or 114)?

Correction or clarification is required.

Claims 3, 7-10, and 19 are also rejected due to the limitations of the base claims and any intervening claims.

4. Claim 20 recites the limitation "said frequency controller" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 21, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Riley, Jr. (U.S. Patent No. 4,272,729).

In reference to claim 1, Riley discloses in Figure 1 a signal generator, comprising: a synthesizer (12) that generates a synthesizer signal ( $f_{OUT}$ ) which has a synthesizer frequency that corresponds to a tuning word (34) and a clock signal (CLOCKIN); a frequency controller (24) that provides a controlled tuning word (34) whose corresponding synthesizer frequency is within a selected frequency error from the

reference frequency of a reference signal ( $f_{REF}$ ); and a phase controller (16, 18, 20, 22) that alters the phase of the synthesizer signal ( $f_{OUT}$ ) to reduce a phase difference between the synthesizer signal ( $f_{OUT}$ ) and the reference signal ( $f_{REF}$ ). The same applies to claims 21 and 25, see column 4, lines 5-17.

***Allowable Subject Matter***

7. Claims 12-17, 22-24, and 26-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Claims 2-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
9. Claims 18-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
10. The following is a statement of reasons for the indication of allowable subject matter: Claims 2-5 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 1 wherein the frequency controller (40) includes at least one counter (43, 44) and a count processor (48) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 6-11 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein the phase controller (100) includes a latch (102) and a digital filter (103) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 12-13 would be allowable because the closest prior art of

record fails to disclose a circuit as shown in Figure 1 wherein the synthesizer (30) is an accumulator in combination with the rest of the limitations of the base claims and any intervening claims. Claims 14-15 and 31 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the circuit further includes a word converter (92) in combination with the rest of the limitations of the base claims and any intervening claims. Claims 16-17 and 32 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the circuit further includes a digital-to-analog converter (90) that converts the synthesizer signal into an analog signal in combination with the rest of the limitations of the base claims and any intervening claims. Claims 18-20 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 1 wherein the signal generator includes synthesizer (44) and reference (43) counters in combination with the rest of the limitations of the base claims and any intervening claims. Claims 22-23 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 1 wherein the method includes the step of obtaining a difference count (which is seen to be performed by the differencer 46) in combination with the rest of the limitations of the base claims and any intervening claims. Claim 24 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 3 wherein the method includes modifying the controlled tuning word in accordance with at least one of a predetermined frequency multiple (S) (this is seen to be done through multiplier 84) and a predetermined tuning word (INITIAL TUNING WORD), which is added to the controlled tuning word, in combination with the rest of the

limitations of the base claims and any intervening claims. Claim 26 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein the phase difference signal is offset in response to a selected phase offset signal ( $2^{N-1}$ ), this is seen to be done by adder 105, in combination with the rest of the limitations of the base claims and any intervening claims. Claims 27-29 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 4 wherein the method includes forming a difference between the detected frequency multiple and a predetermined frequency multiple and altering the controlled tuning word (this is seen to be performed by elements 112, 113, and 114) in combination with the rest of the limitations of the base claims and any intervening claims. Claim 30 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 1 wherein the method includes recursively adding the tuning word at a rate of the clock signal (this is performed by adder 34 and latch 32) in combination with the rest of the limitations of the base claims and any intervening claims.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 571-272-1741. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and on.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 22, 2005



TIMOTHY P. CALLAHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800